

In the Claims

Amend claims 50 and 51 as follows:

1. (Previously Amended) A cylindrical filter of a high accuracy composed of non-woven fibrous agglomerates and comprising at least two layers of a pre-filtration layer and a precision filtration layer disposed in the direction of filtration, said pre-filtration layer being formed with a non-woven fabric, in which at least a part of the fibers are bonded to each other at their contact points by heat treatment, wherein the diameter of all or part of the fibers constituting said non-woven fabric in said pre-filtration layer becomes gradually smaller toward the direction of filtration, said precision filtration layer comprising one or more layers of non-woven fabrics, and the diameter of fibers which account for 10% by weight or more of the fibers in said one or more layers of the non-woven fabrics in said precision filtration layer being smaller than the diameter of the fibers having a smallest diameter in said pre-filtration layer.

2. (Original) The filter of a high accuracy according to claim 1 wherein said pre-filtration layer comprises a non-woven fabric comprising at least one kind of fibers selected from the group consisting of polyolefin fibers and polyester fibers.

3. The filter of a high accuracy according to claim 1 wherein said pre-filtration layer comprises a non-woven fabric prepared by a melt-blow process.

4. (Withdrawn)

5. (Withdrawn)

6. (Original) The filter of a high accuracy according to claim 1 wherein the non-woven fabric of said pre-filtration layer is a mixture of ultrafine fibers of a high melting point component and ultrafine fibers of a low melting point component having a difference in melting point of 10 °C or more.

7. (Previously Amended) The filter of a high accuracy according to claim 1 wherein a ratio of a smallest diameter to a largest diameter of fibers in the non-woven fabric of said pre-filtration layer is 1:2 to 1:10.

8. (Previously Amended) The filter of a high accuracy according to claim 1 wherein a ratio of the diameter of fibers in one of the non-woven fabrics of said precision filtration layer, which comprises fibers having a diameter smaller than that of fibers having a smallest diameter in said pre-filtration layer, to a smallest diameter of the fibers in said pre-filtration layer is 1:1.1 to 1:20.

9. (Original) The filter of a high accuracy according to claim 1 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smallest diameter in said pre-filtration layer, has a void ration of 45 to 97%.

10. (Original) The filter of a high accuracy according to claim 1 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smallest diameter in said pre-filtration layer, is prepared by a melt-blow process.

11. (Original) The filter of a high accuracy according to claim 1 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smallest diameter in said pre-filtration layer, comprises glass fibers.

12. (Original) The filter of a high accuracy according to claim 1 wherein said precision filtration layer comprises a non-woven fabric other than the non-woven fabric in said pre-filtration layer.

13. (Original) The filter of a high accuracy according to claim 1 wherein said precision filtration layer comprises a non-woven fabric prepared by a process separate from that used for the preparation of the non-woven fabric in said pre-filtration layer.

14. (Original) The filter of a high accuracy according to claim 1 wherein a void ratio (%) of said pre-filtration layer is 55 to 90%, and the value obtained by

subtracting a void ratio (%) of said precision filtration layer from the void ratio (%) of said pre-filtration layer is in the range between 5% and 45%.

15. (Original) The filter of a high accuracy according to claim 12 wherein a void ratio of said pre-filtration layer is 55 to 90%, and the value obtained by subtracting a void ratio (%) of said precision filtration layer from the void ratio (%) of said pre-filtration layer is in the range between 5% and 45%.

16. (Original) The filter of a high accuracy according to claim 13 wherein a void ratio of said pre-filtration layer is 55% to 90%, and the value obtained by subtracting a void ratio (%) of said precision filtration layer from the void ratio (%) of said pre-filtration layer is in the range between 5% and 45%.

17. (Original) The filter of a high accuracy according to claim 13 wherein said pre-filtration layer comprises a non-woven fabric comprising at least one kind of fiber selected from the group consisting of polyolefin fibers and polyester fibers.

18. (Original) The filter of a high accuracy according to claim 12 wherein said pre-filtration layer comprises a non-woven fabric comprising at least one kind of fiber selected from the group consisting of polyolefin fibers and polyester fibers.

19. (Original) The filter of a high accuracy according to claim 12 wherein said pre-filtration layer comprises a non-woven fabric prepared by a melt-blow process.

20. (Original) The filter of a high accuracy according to claim 13 wherein said pre-filtration layer comprises a non-woven fabric prepared by a melt-blow process.

21. (Withdrawn)


22. (Withdrawn)

23. (Withdrawn)

24. (Withdrawn)

25. (Original) The filter of a high accuracy according to claim 12 wherein the non-woven fabric of said pre-filtration layer is a mixture of ultrafine fibers of a high melting point component and ultrafine fibers of a low melting point component having a difference in melting point of 10°C or more.

26. (Original) The filter of a high accuracy according to claim 13 wherein the non-woven fabric of said pre-filtration layer is a mixture of ultrafine fibers of a high melting point component and ultrafine fibers of a low melting point component having a difference in melting point of 10°C or more.



27. (Previously Amended) The filter of a high accuracy according to claim 12 wherein a ratio of a smallest diameter to a largest diameter of fibers in the non-woven fabric of said pre-filtration layer is 1:2 to 1:10.

28. (Previously Amended) The filter of a high accuracy according to claim 13 wherein a ratio of a smallest diameter to a largest diameter of fibers in the non-woven fabric of said pre-filtration layer is 1:2 to 1:10.

29. (Previously Amended) The filter of a high accuracy according to claim 12 wherein a ratio of the diameter of fibers in one of the non-woven fabrics of said precision filtration layer, which comprises fibers having a diameter smaller than that of fibers having a smallest diameter in said pre-filtration layer, to a smallest diameter of the fibers in said pre-filtration layer is 1:1 to 1:20.

30. (Previously Amended) The filter of a high accuracy according to claim 13 wherein a ratio of the diameter of fibers in one of the non-woven fabrics of said precision filtration layer, which comprises fibers having a diameter smaller than that of fibers having a smallest diameter in said pre-filtration layer, to a smallest diameter of the fibers in said pre-filtration layer is 1:1 to 1:20.

31. (Original) The filter of a high accuracy according to claim 12 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having smallest diameter in said pre-filtration layer, has a void ratio of 45 to 97%.

32. (Original) The filter of a high accuracy according to claim 13 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of fibers having a smallest diameter in said pre-filtration layer, has a void ratio of 45 to 97%.

33. (Original) The filter of a high accuracy according to claim 12 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smallest diameter in said pre-filtration layer, is prepared by a melt-blow process.

34. (Original) The filter of a high accuracy according to claim 13 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smallest diameter in said pre-filtration layer, is prepared by a melt-blow process.

35. (Previously Amended) The filter of a high accuracy according to claim 12, wherein the non-woven fabric, other than the non-woven fabric in said pre-filtration layer, comprises glass fibers.

36. (Original) The filter of a high accuracy according to claim 13 wherein the non-woven fabric of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smaller diameter in said pre-filtration layer, comprises glass fibers.

37. (Original) The filter of a high accuracy according to claim 1 wherein said filter further comprises a support layer, said support layer being formed with a non-woven fibrous agglomerate, the diameter of the fibers constituting said non-

woven fibrous agglomerate in said support layer is larger than the diameter of the fibers in said precision filtration layer, and at least a part of the fibers constituting said non-woven fibrous agglomerate in said support layer being bonded each other by heat treatment.

38. (Previously Amended) A cylindrical filter of a high accuracy composed of non-woven fibrous agglomerates and comprising at least three layers of a pre-filtration layer, a precision filtration layer, and a support layer disposed in the direction of filtration, said pre-filtration layer being formed with a non-woven fibrous agglomerate prepared by a melt-blow process, and the diameter of all or part of the fibers constituting said non-woven fibrous agglomerate in said pre-filtration layer becomes gradually smaller toward the direction of filtration, said precision filtration layer comprising one or more non-woven fibrous agglomerates, and the diameter of fibers which account for 10% by weight or more of the fibers in said one or more non-woven fibrous agglomerates in the precision filtration layer being smaller than the diameter of the fibers having a smallest diameter in said pre-filtration layer, and said support layer being formed with a non-woven fibrous agglomerate in which at least a part of the fibers are bonded by heat treatment, and the diameter of the fibers constituting said non-woven fibrous agglomerate in said support layer is larger than the diameter of the fibers in said precision filtration layer.

39. (Original) The filter of a high accuracy according to claim 38 wherein said pre-filtration layer comprises a non-woven fibrous agglomerate comprising at least one kind of fibers selected from the group consisting of polyolefin fibers and polyester fibers.

40. (Withdrawn)

41. (Original) The filter of a high accuracy according to claim 38 wherein the non-woven fibrous agglomerate of said pre-filtration layer is a mixture of ultrafine fibers of a high melting point component and ultrafine fibers of a low melting point component having a difference in melting point of 10°C or more.

42. (Previously Amended) The filter of a high accuracy according to claim 38 wherein a ratio of a smallest diameter to a largest diameter of fibers in the non-woven fibrous agglomerate of said pre-filtration layer is 1:2 to 1:10.

43. (Previously Amended) The filter of a high accuracy according to claim 38 wherein a ratio of the diameter of fibers in one of the non-woven fibrous agglomerates of said precision filtration layer, which comprises fibers having a diameter smaller than that of fibers having a smallest diameter in said pre-filtration layer, to a smallest diameter of the fibers in said pre-filtration layer is 1:1 to 1:20.

44. The filter of a high accuracy according to claim 38 wherein the non-woven fibrous agglomerate of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smallest diameter in said pre-filtration layer, has a void ratio of 45 to 97%.

45. (Original) The filter of a high accuracy according to claim 38 wherein the non-woven fibrous agglomerate of said precision filtration layer, which comprise fibers having a diameter smaller than that of the fibers having a smallest diameter in said pre-filtration layer, is prepared by a melt-blow process.

46. (Previously Amended) The filter of a high accuracy according to claims 38 wherein one of the non-woven fibrous agglomerates of said precision filtration layer, which comprises fibers having a diameter smaller than that of the fibers having a smaller diameter in said pre-filtration layer, comprises glass fibers.

47. (Original) The filter of a high accuracy according to claim 38 wherein said precision filtration layer comprises a non-woven fibrous agglomerate prepared by a process separate from that used for the preparation of the non-woven fibrous agglomerate in said pre-filtration layer.

48. (Original) The filter of a high accuracy according to claim 38 wherein a void ratio of said pre-filtration layer is 55 to 90%, and the value obtained by

subtracting a void ratio (%) of said precision filtration layer from the void ratio (%) of said pre-filtration layer is in the range of 5% and 45%.

49. (Original) The filter of a high accuracy according to claim 38 wherein said precision filtration layer comprises a non-woven fibrous agglomerate comprising at least one kind of fibers selected from the group consisting of polyolefin fibers and polyester fibers.

50. (Currently Amended) ~~The filter of a high accuracy according to claim 38~~
A cylindrical filter of a high accuracy composed of non-woven fibrous agglomerates and comprising at least three layers of a pre-filtration layer, a precision filtration layer, and a support layer disposed in the direction of filtration, said pre-filtration layer being formed with a non-woven fibrous agglomerate prepared by a melt-blow process, and the diameter of all or part of the fibers constituting said non-woven fibrous agglomerate in said pre-filtration layer becomes gradually smaller toward the direction of filtration, said precision filtration layer comprising one or more non-woven fibrous agglomerates, and the diameter of fibers which account for 10% by weight or more of the fibers in said one or more non-woven fibrous agglomerates in the precision filtration layer being smaller than the diameter of the fibers having a smallest diameter in said pre-filtration layer, and said support layer being formed with a non-woven fibrous agglomerate in which at least a part of the fibers are bonded by heat treatment, and the diameter of the fibers constituting said non-woven fibrous agglomerate in said support layer is larger than the diameter of the fibers in said precision filtration layer, wherein the diameter of all or part of the fibers constituting said non-woven fibrous agglomerate in said support layer becomes gradually larger toward the direction of filtration.

51. (Currently Amended) ~~The filter of a high accuracy according to claim 38~~
A cylindrical filter of a high accuracy composed of non-woven fibrous agglomerates and comprising at least three layers of a pre-filtration layer, a precision filtration layer, and a support layer disposed in the direction of filtration, said pre-filtration layer being formed with a non-woven fibrous agglomerate prepared by a melt-blow process, and the diameter of all or part of the fibers constituting said non-woven

fibrous agglomerate in said pre-filtration layer becomes gradually smaller toward the direction of filtration, said precision filtration layer comprising one or more non-woven fibrous agglomerates, and the diameter of fibers which account for 10% by weight or more of the fibers in said one or more non-woven fibrous agglomerates in the precision filtration layer being smaller than the diameter of the fibers having a smallest diameter in said pre-filtration layer, and said support layer being formed with a non-woven fibrous agglomerate in which at least a part of the fibers are bonded by heat treatment, and the diameter of the fibers constituting said non-woven fibrous agglomerate in said support layer is larger than the diameter of the fibers in said precision filtration layer, wherein the diameter of all or part of the fibers constituting said non-woven fibrous agglomerate in said support layer first becomes gradually smaller and then become gradually larger toward the direction of filtration.

52. (Original) The filter of a high accuracy according to claim 38 wherein approximate thickness of said pre-filtration layer, precision filtration layer, and support layer is about 49 to 90%, 4%, and 6 to 48%, respectively, based on the total thickness of filter.

53. (Original) The filter of a high accuracy according to claim 38 wherein each of said pre-filtration layer and said precision filtration layer is formed with a non-woven fabric, in which at least a part of fibers are bonded each other by heat treatment.

54. (Original) The filter of a high accuracy according to claim 38 wherein each of said pre-filtration layer, said precision filtration layer, and said support layer is formed with a non-woven fabric, in which at least a part of fibers are bonded each other by heat treatment.

55. (Withdrawn)

56. (Previously Added) A cylindrical filter of a high accuracy composed of non-woven fibrous agglomerates and comprising at least two layers of a pre-filtration layer and a precision filtration layer disposed in the direction of filtration, each of said

pre-filtration layer and said precision filtration layer being formed with a non-woven fabric, at least a part of the fibers in said pre-filtration layer are bonded to each other at their contact points by heat treatment, wherein the diameter of all or part of the fibers constituting said non-woven fabric in said pre-filtration layer becomes gradually smaller toward the direction of filtration, and the diameter of fibers which account for 10% by weight or more of the fibers in the non-woven fabric in said precision filtration layer being smaller than the diameter of the fibers having a smallest diameter in said pre-filtration layer.
